

# Expert group joint opinion

Evaluation Procedure: Assessment of Study Field

Higher Education Institution: Mechanics and Technology College of Olaine

Study field: Manufacture and Processing

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# **Summary of the Assessment of the Study Field and the Relevant Study Programmes**

## **Summary of the Assessment of the Study Field and the Relevant Study Programmes**

The team of experts assessed that the study field "Manufacture and processing" (hereinafter: Study field) corresponds to the purpose of the Riga Technical University agency "Rīga Technical University Olaine Technology College" (hereinafter: RTU OTC), the uniqueness of the program "Food Quality Control" and the need to accredit it. At the same time, experts have identified shortcomings, the most important of which is the small number of students and, accordingly, graduates.

The purpose of the study field is defined and corresponds to RTU OTC's strategic goals, they are planned for a 5-year period, and their evaluation is carried out every six months at the administration meeting. The food industry is growing rapidly and lacks the necessary specialists, at the same time RTU OTC has not established stable and sustainable cooperation with the food industry, as is the case with the chemical and pharmaceutical industries. RTU OTC has a small number of students, as a result of which the filling of budget places is about 40% (calculated according to SAR data p.26. and p.56). There is a well-developed material and technical base for ensuring the field of studies.

The main governing body of the RTU OTC is the council, but day-to-day issues are decided at administration meetings. As the RTU OTC is a structural unit of the Riga Technical University (hereinafter: RTU). There are no separately developed procedures regarding the management of the study field, but at the same time, considering that RTU OTC is a relatively small college, issues are decided as necessary, involving the relevant representatives of the administration. The evaluation of the content of the study program is carried out at the level of the program director, together with the academic staff, but industry and student representatives are not involved.

Students are admitted to the study program both after graduating from high school and with other previous education, on a competitive basis. For students applying for later study stages, the recognition of the study results achieved in the previous education takes place before matriculation, based on the application submitted in the Studies Division.

Student works are evaluated on a 10-point scale, and the exam grade makes up to 50% of the total grade in the study course. The director of the study program, together with the lecturers, has developed an accurate student achievement evaluation scale that the lecturers can use.

At the beginning of the study course, each lecturer informs the students about the planned independent work, midterms and exams. In the Moodle system, students can at any time see the description of the study course, lecture materials, links to books, independent tasks, video materials, as well as a calendar with submitted independent works, but the mykoob.lv system is used for posting student evaluations.

Examination of students' qualification works is carried out using the plag.lv system. It would also be purposeful to check the papers submitted during the semester for signs of plagiarism in order to promote the level of academic integrity.

RTU OTC's material and technical base – laboratories and equipment are new, and they can provide students with the opportunity to learn how to work with the equipment, conduct research, and develop high-quality final theses. Despite the fact that RTU OTC has close cooperation with industry, it is with chemical and pharmaceutical industry companies, but cooperation with food industry companies needs to be established and developed. In particular, it is important to involve industry representatives in evaluating the content of the study program so that it meets the requirements of the labour market, especially because the study program has been shortened from 2.5 years to 2 years, which makes it more attractive, as the specialists needed by the labor market can be more quickly ready to integrate into the labour market.

The RTU OTC has established a quality policy that is focused on implementation of the mission of the college, achievement of the strategic goals and sustainable development (SAR, p. 1.3.). Strategic

goals are focused on improving the quality and efficiency of the existing system, however, goals are general and not easily measurable.

Review of the study program is based on professional standards and student survey results. There is insufficient industry involvement in program evaluation and no benchmarking of similar study programs in Latvia or abroad. Also, no descriptive procedure for the exact steps to be taken in reviewing the study program has been developed.

The small number of students ensures that each claim can be addressed with an individual approach. However, no confirmations were obtained that complaints expressed outside the surveys are recorded and included in the annual student satisfaction analysis.

Students are well informed about the possibility of submitting claims and suggestions. They respond positively about the opportunity to evaluate the study program and study courses. For communication, students prefer to use mykoob platform or direct conversation with teaching staff and HEI management.

Main data sources for study process and study program analysis are student claims/suggestions, student academic performance and student satisfaction surveys. Student survey and claim submitting system is more focused on the progress of the study process than the study program itself. There is no direct communication with employers and no available data about communication with graduates that would encourage the development of the study program in the right direction. Information from the industry comes from the student internship reports. The information obtained is incomplete and very focused on a few sectors.

The RTU OTC website contains necessary information about the study program “Food quality control” and information is compliant with the official registers. It would be preferable that information is available not only in Latvian but also in English.

The College has highly new and advanced laboratories for students to do practical tasks. Students have limited library resources onsite while they can easily access the necessary resources through RTU and other databases. The overall number of the students is decreasing with every year as well as the funding while the expenses are increasing per student. The College struggles to fill all the state budget places. Informative material base is unclear. The College uses various platforms for everyday purposes. The College is involved in helping students to find internships. The lecturers are hard to find due to limited resources. They also struggle to employ previous graduates. Lecturers participate in various projects. Students are being provided various forms of support including psychological.

RTU OTC has a goal to increase the research activity, however, a clear plan on how to reach the goal is not presented in the SAR nor at the campus visit. Five staff members are involved in relevant research, however, several fields are not covered and the involvement of students in research is limited. A variety of food industries should be involved in applied research at RTU OTC.

## **I - Assessment of the Study Field**

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#### **1.1 Management of the Study Field**

##### **Analysis**

1.1.1. The goals of the study field are defined, and they correspond to the strategic goal of RTU OTC “to offer a high quality of studies, to ensure that the theoretical knowledge acquired in the study program is most effectively related to practice” (SAR, p. 13). New and modernly equipped laboratories contribute to the achievement of the goal. During the visit with RTU OTC management, it was clarified that the strategic development goals are planned for a 5-year period and their evaluation is carried out once every six months at the administration meeting. Academic staff and

entrepreneurs could also be involved in the evaluation of the goals, not only the participants of the administrative meeting. Only one study program is included in the evaluated study field.

The food industry is one of the fields of strategic development of the college (SAR, p. 4) together with chemistry, pharmacy, biotechnology, and environment. During the visit, it was concluded that the college has close cooperation with the chemical and pharmaceutical industry and, accordingly, more attention is paid to chemistry, pharmaceutical, biotechnology, and environmental study programs, rather than the evaluated program. Although the food industry study program is unique in Latvia (SAR, p. 15), other universities do not prepare such specialists, and the industry needs such specialists. Although RTU OTC should evaluate its program and its content with similar programs in other countries because during the visit it was found that this is not being done at the moment.

During the visit, information was provided that entrepreneurs need graduates of this program. At the same time, the number of students in the program is at a critically low (the filling of budget places is about 40% (calculated according to SAR data p.26. and p.56)) and does not coincide with the growing demand of employers for specialists in this field. This, accordingly, indicates the need to implement active actions to attract students in order to ensure the profitability and sustainability of the program. As well as to create closer cooperation with food industry companies.

1.1.2. SAR (p.14 and 15) has carried out a SWOT analysis, where the internal and external factors characterizing the study vision have been identified, and they correspond to the RTU OCT Development and investment strategy 2021 - 2027.

The most important advantages of the study field are the uniqueness of the study program (SAR, p. 14) and the material and technical base, which were verified during the visit. Insufficient level of cooperation with the industry is indicated as a significant shortcoming in the SWOT analysis (SAR, 14), also during the visit, the experts concluded that currently, RTU OTC has very good cooperation with the pharmaceutical industry companies, but at the same time, the cooperation with the food industry companies is not at a sufficient level. Mostly, companies send their requests for employees and offer internships, where cooperation is often established through graduates who are employed by a particular company. Companies offer tours, but there is a lack of industry involvement in creating the content of the study program, helping to provide the necessary specialists, as well as promoting the development of science in RTU OTC, supporting the development of applied research. The weaknesses and threats identified in the SWOT analysis are integrated into the 6 priorities: 1. Development of a new offer of educational programs 2. Provision of human resources 3. Provision of practice places 4. Increase in the number of learners 5. Application of infrastructure and Technologies 6. High efficiency of economic activity - set by the RTU OCT Development and investment strategy 2021 - 2027 (p.6-7).

1.1.3. The main governing body of the RTU OTC is the council. Day-to-day issues are decided at administration meetings (SAR, p. 16), and during the meeting with college management was found that the director of RTU OTC participates in the meetings of deans of RTU. The main governing body also makes strategic decisions regarding the development of RTU OCT, including the evaluated study field. For example, changes in the number of study programs (SAR, p. 13.).

However, with regard to the management of the study field, there are no separately developed procedures, but during the visit, it was repeatedly emphasized that considering that RTU OTC is a relatively small educational institution, solving the issues is relatively easier to implement. Appendix 4 mentions that the management structure of RTU OTC study field has not been schematically formed. Experts believe that the creation of a study field management scheme would promote a higher level of responsibility and understanding of the persons responsible for each process, as well as ensure that both students and graduates, academic and administrative staff are involved in this process (for solving relevant issues).

During the meeting with the members of the group responsible for the preparation of SAR and QA

system-related issues, the down-to-top principle is applied regarding the provision of the material and technical base, when academic staff express their needs, which are then evaluated at the meeting of the methodological commission, and then the request for evaluation is submitted to the administration meeting. The academic staff are involved in the decision-making process of the material and technical base. During the visit, in a meeting with the RTU OTC management, it was confirmed that administrative and technical support is provided for the study program corresponding to the field of study, for example, students have access to laboratories, the opportunity to use not only the RTU OTC library but also the services of the RTU library. RTU OTC has new and modern laboratories that are fully equipped to implement a quality study process.

During the different meetings during the on-site visit, information was received that in the development and evaluation of the study field and program content, in relation to strategic decisions, for example, instead of the previously existing 2 study programs in this field, one study program was created, the name of the program was changed (SAR, 51.p.). RTU, the founder of RTU OTC, also took part in the adoption of relevant decisions. At the same time, the evaluation of the content of the study program is carried out at the level of the program director, together with the academic staff. Student and industry representatives are not directly involved in the improvement of study content. During the visit, management representatives mentioned that RTU OTC students and academic staff have the opportunity to participate in conferences organized by RTU, use access to library resources. Experts believe that cooperation should be made closer, especially in terms of increasing the number of students, for example, by combining RTU's existing undergraduate study programs to enable RTU OTC graduates to continue their studies and obtain higher education in a faster period of time. Since RTU has established a Design Factory, and developed cooperation with companies, RTU OTC students and lecturers could also be involved in research.

1.1.4. The RTU OTC has developed a document "Rules on the procedure for the admission of students" (<https://otk.rtu.lv/normativie-dokumenti/>) , which stipulates the requirements and procedures for the admission of students. Students are admitted to the study program both after graduating from high school and with other previous education. The main condition for being able to study is a successful assessment in mathematics, Latvian and a foreign language (document "Rules on the procedure for the admission of students" (paragraph 3.3) and students are admitted on a competitive basis. However, in accordance with the admission rules SAR (p.26) 2021 there were 25 budget places, but the number of admitted students was 8 respectively (SAR, p. 56). The available number of budget places is much more than the number of people who want to study. It can be concluded from this that anyone who wants has the opportunity to study in this study program and in fact, there is no competition for the available budget places. RTU OTC representatives emphasized that students prefer to study in a bachelor's study program rather than a short-cycle study program. In fact, the largest number of student applications at the RTU OTC is after August 15, when potential students who had applied to study at the university did not pass the competition for budget places. During the visit, employers mentioned that despite the fact that Food quality specialists are needed, employers choose potential students very carefully, because accuracy is one of the most important qualities for students of this speciality, and it is often not enough. The graduates also assured the experts that it is difficult to find a job, despite having received a diploma in a speciality whose professionals are currently essential to the industry. All of the above leads to the conclusion that it would be purposeful to review the admission rules and introduce discussions with students to assess the student's suitability for Food quality specialists.

During the meeting with college representatives, students and graduates, it was concluded that part of the students in this program have an existing education in another direction or have practical experience in the food industry, but who need an appropriate document confirming their education. RTU OTC has developed a regulation "On recognition of competencies acquired outside of formal education or professional experience and study results achieved in previous education". According

to the mentioned regulation, for students who apply for the later study stages, the recognition of the study results achieved in the previous education takes place before matriculation. In other cases, the decision on the recognition of study courses is made after the submission of the relevant documents. RTU OTC recognition of study courses takes place upon receipt of the student's application at the Study Division. The original of the academic certificate issued by the higher education institution and the transcript of results is attached to the application. According to SAR (p. 18), there are relatively few such applications.

1.1.5. According to SAR (p. 20) RTU OTC has developed the regulation "On the Procedure of Studies and Examinations", according to which student works are evaluated. Student works are evaluated on a 10-point scale, and the exam grade makes up to 50% of the total grade in the study course. During the visit, the academic staff confirmed that, in addition to that, the director of the study program, together with the lecturers, has developed an accurate student achievement evaluation scale that the lecturers can use.

At the beginning of the study course, each lecturer informs the students about the planned independent work, intermediate exams and exams. In the Moodle system, students can see the description of the study course at any time. During the visit, the Moodle system was demonstrated to the experts. It is used for students to post lecture materials, links to books, independent tasks, video materials, as well as a calendar with independent works to be submitted. Evaluation of student works is not done in this system for now, but in mykoob.lv. According to SAR (20-21.p.), the mykoob.lv system is used to post student assessments.

It can be concluded that RTU OTC has a developed and functioning student achievement assessment system. RTU OTC has developed "Procedure of study organization at RTU OTK from November 15, 2021" ([https://otk.rtu.lv/wp-content/uploads/sites/29/2020/05/studiju-un-pa\\_rb.-nolikums-2020-1.pdf](https://otk.rtu.lv/wp-content/uploads/sites/29/2020/05/studiju-un-pa_rb.-nolikums-2020-1.pdf)) and paragraph 6 of this regulation stipulates the procedure and requirements for knowledge testing and evaluation. According to the mentioned regulations, the program director is responsible for the high-quality content of the study process.

1.1.6. According to SAR (p. 21) RTU OTC has developed the regulation "Regulations on the Procedure of Studies and Examinations", which deals with questions about academic honesty. Students' qualification papers are checked using the plag.lv system. According to previously mentioned document "Before defending the qualification thesis, the supervisor of the qualification thesis performs a check of the originality of the qualification thesis" (exclusion of the possibility of plagiarism) (regulation "Regulations on the Procedure of Studies and Examinations" paragraph 9.24.). During the visit, the RTU OTC lecturers mentioned that, if the lecturer has any suspicions, the students' papers submitted during the semester are also checked in the plag.lv system and then discussed with the students. At the same time, the lecturers mentioned that there were no such cases in their practice. Since the procedure currently applies to qualification papers, it would be purposeful to check each paper for signs of plagiarism in order to promote the level of academic integrity.

## **Conclusions on this set of criteria, by specifying strengths and weaknesses**

The purpose of the study field is defined and corresponds to RTU OTC's strategic goals, they are planned for a 5-year period, and their evaluation is carried out every six months at the administration meeting. The food industry is growing rapidly and lacks the necessary specialists, at the same time RTU OTC has not established stable and sustainable cooperation with the food

industry, as is the case with the chemical and pharmaceutical industries. RTU OTC has a small number of students, as a result of which the filling of state funding places is about 40% (calculated according to SAR data p.26. and p.56). There is a well-developed material and technical base for ensuring the field of studies.

The main governing body of RTU OTC is the council, which is responsible for strategic decisions, but day-to-day issues are decided at administration meetings. The field of study does not have a separate official management structure, but given that RTU's OTC college is relatively small and many issues are dealt with informally.

Students are admitted to the study program both after graduating from high school and with other previous education, on a competitive basis. For students applying for later study stages, the recognition of the study results achieved in the previous education takes place before matriculation, based on the application submitted in the Studies Division.

Student works are evaluated on a 10-point scale, and the exam grade makes up to 50% of the total grade in the study course. The director of the study program, together with the lecturers, has developed an accurate student achievement evaluation scale that the lecturers can use.

At the beginning of the study course, each lecturer informs the students about the planned independent work, midterms and exams. In the Moodle system, students can at any time see the description of the study course, lecture materials, links to books, independent tasks, video materials, as well as a calendar with submitted independent works, but the mykoob.lv system is used for posting student evaluations.

Examination of students' qualification works is carried out using the plag.lv system. It would also be purposeful to check the papers submitted during the semester for signs of plagiarism in order to promote the level of academic integrity.

#### Strengths:

1. RTU OTC is a small college and solving questions is easy to implement.
2. A well-developed material and technical base contribute to the achievement of the goals of the study field.

#### Weaknesses:

1. Cooperation with representatives of the industry has not developed sufficiently and they are not involved in improving the curriculum.
2. The filling of state funding places is about 40%
3. The management structure of RTU OTC study field has not been schematically formed
4. There is no developed system for checking student semester work evaluations for signs of plagiarism.

## **1.2. Efficiency of the Internal Quality Assurance System**

### **Analysis**

1.2.1. The RTU OTC has established a quality policy and it is publicly available on the college website (<https://otk.rtu.lv/nolikums/>). The quality policy is focused on implementation of the mission of the college, achievement of the strategic goals and sustainable development (SAR, p. 1.3.). The goals for the time period of 2021- 2027 are set in 6 priorities which are: development of a new offer of educational programs; provision of human resources; provision of practice places; increase in the number of learners; application of infrastructure and technologies; high efficiency of economic activity (SAR, Annex 3, paragraph 1.4.). One of the main values of the college is "excellent quality" (Development and investment strategy 2021 - 2017, p. 1.2). Strategic goals are generally focused on improving the quality and efficiency of the existing system. For example, the achievement of the goals mentioned below will positively improve the study program "Food quality control" relevance to

the industry.

goal 1.1. "Update and modernize existing educational programs promoting closer involvement of companies in the sector";

goal 2.1. "Attract highly qualified human resources";

goal 2.3. "Motivate and ensure staff growth opportunities";

goal 3.1. "Cooperate with representatives of employers by coordinating traineeships";

goal 5.4. "Improve IT applications and work on digitalization".

There are clearly defined steps that need to be taken to achieve the goals (Development and investment strategy 2021 - 2017, p. 3.5.). However, goals are defined in general terms, and they are not measurable which could make it difficult to assess the fulfilment of the goals. For example goal 1.2. "Develop new, modular educational programs that meet the requirements of the labour market" could identify a certain number of study programs that need to be developed in a certain period of time. In this way, goal performance would be easy to measure and communicate to relevant staff during the goal review meetings.

As the RTU OTC reports in the SAR (p. 1.3.), the quality management system is based on European standards and guidelines set for higher education institutions. The improvement of the quality system is based on the satisfaction of students, as well as their and other interested parties' desires and suggestions. As an example, RTU OTC mentions that in the evaluation of the study process, it was observed that students do not achieve the desired results in their study course final papers. The problem was analyzed in the teaching staff meeting. It was concluded that the cause is that there are insufficient materials and guidelines available for successful work performance. Corrective actions were taken: improvement of methodological materials and additional consultations with teaching staff were provided (SAR, p. 2.2.1.). Regular student surveys are conducted both on the content of the study course and on everyday-life issues (SAR, p. 1.3.). During the meetings with teaching staff and also students, experts got an impression that both parties understood the importance of surveys and what contribution it can make to the development of the study course and learning process. Students confirmed that they are always engaging both in the official evaluation of the study process and in daily communication with teaching staff and administration. The above-mentioned actions indicate that RTU OTC is interested in improving the quality of the study process, which is successfully done with the involvement of students and teaching staff.

1.2.2. All study programs in RTU OTC are reviewed once a year. The reviews are based on professional standards and student, graduate and employer survey results. Staff involved in the review process - Deputy Director of Studies and Research, the Study Department, the Program Managers and the leading teaching staff in specific study programs (SAR, p. 2.2.2.). During the meeting with the group responsible for preparation of SAR it was found out that no benchmarking is used in the process of program development/review. Also, no descriptive procedure for the exact steps to be taken in reviewing the study program is available.

During the visit and also in the SAR (p. 1.3.; 2.2.3.; 2.2.4. and in others) it was repeatedly emphasized that the main quality assurance mechanism is the analysis of student satisfaction. Student surveys about the study program are conducted once a year. Students have the opportunity to evaluate the content of the studies, the competence of the teaching staff, the organizational processes and others. A survey is done after the end of each study course. It contains 19 questions where the answer needs to be marked on a hedonic scale. Questions include evaluation of the organizational part of the study course, teaching staff's dedication to the study process and methods used, students' interest in the study course. Also, there is one open question where students can express their opinion regarding the study course (SAR, Annex 21).

As well as students have the opportunity to give feedback and express an opinion on the weaknesses of the study program and make recommendations for its improvement (SAR, p. 2.2.4.). This survey is conducted once a year. Students receive a survey from RTU OTC administration. 3



methods are used for questions in the survey: 4 hedonic scales about study content, quality of teaching staff, technical and material base and organization of study process. There is one test question about how the student found out about the RTU OTC study program "Food quality control" and 10 open questions that include information on why students chose the RTU OTC, students opinion about the strengths and weaknesses of the study program, student suggestions for improving the study process (SAR, Annex 19).

In SAR Annex 8 it is mentioned that such surveys are also performed for graduates immediately after graduation from RTU OTC. A survey for graduates can be seen in SAR, Annex 20. Questions in the survey are more focused on the evaluation of the overall study experience. In addition to this, it would be recommended to contact the graduates after some time asking questions about the experience of finding a job after completing the studies, application of acquired knowledge in daily work, biggest challenges in everyday work and similar. Also, the college could periodically compile a summary of how many of its graduates are working in the profession.

Annex 8 states that communication with employers is performed after student internships. However, no analysis of the results is available. Also during the meeting with employers, they could not confirm that they had participated in such a survey. However, during the visit, the teaching staff explained that the relevance of the content of the study program to the industry is evaluated based on students' internship reports. In order to improve feedback from employers, it is suggested to request employers provide a recommendation on the student's performance during the internship according to the criteria set by RTU OTC.

In experts opinion both student surveys (SAR Annex 19 and Annex 21) include comprehensive questions and analysis of the answers can sufficiently assess and determine the quality of the study course, study program and every-day life and indicate the necessary improvements. After meeting with students, it was clear that the survey process and its significance are well communicated and understood. However, improvements need to be made to employer surveys. It is not fully understood how and by whom they are carried out.

1.2.3. During the meeting with students and graduates all of them confirmed that they were informed about the possibility of submitting any claims or suggestions. However, no evidence in the meetings or in the SAR was obtained on how and by whom they were informed. It looked more like information that students obtained during the study process from mutual communication and self-initiative.

After the SAR p. 2.2.3. and meeting with staff responsible for the preparation of the SAR it was concluded that communication between the students and HEI management mainly happens in face-to-face conversations or through the platform [www.mykoob.lv](http://www.mykoob.lv) where each student and lecturer has their own user. Also, there is an anonymous reporting system where students can submit their claims/suggestion in a mailbox.

During the visit, an example of student complaints regarding a particular lecturer was looked at. After the employee's unwillingness to engage in improving the situation despite repeated requests employment with the lecturer was terminated.

The overall complaint management system is effective and working. Complaints made by students are taken seriously and dealt with immediately. Experts have the impression that students feel listened to and involved in improving the study process.

During the visit with RTU OTC representatives who are responsible for the quality system, it was established that also on a daily basis they receive suggestions and claims from students. The small number of students ensures that each claim can be addressed with an individual approach which should be considered an advantage. In the same meeting, it was concluded that the most typical claims that are received from students are regarding communication problems with some lecturers. These kinds of claims are dealt with immediately involving students and teaching staff.

No confirmations were obtained that complaints expressed outside the surveys are recorded and

included in the annual student satisfaction analysis. SAR attachment 8 - analysis of 2020/2021 academic year student satisfaction - includes only results from annual student surveys. It would be valuable to collect all submitted complaints and recommendations in one register which can then be used for analysis.

1.2.4. SAR p. 2.2.4. mentions several sources where the college obtains data for evaluating the study program (student claims and suggestions, student grade review once a month, student, graduate and employer satisfaction review once a year and performance evaluation of teaching staff and administration once a year). No evidence during the visit and in the SAR was obtained about other data sources and analyses. Experts suggest performing a periodic analysis (for example once in 3 years) on national as well as global food industry-sector changes, directions of development and trends and use this information in the reviews of the study program. As mentioned above in 1.2.2. and 1.2.3. there is an established relatively well-working student survey and claim submitting system that is more focused on the progress of the study process than the study program itself. As an example in SAR point 2.2.4. it was mentioned that after several student claims regarding laboratory work during COVID-19 pandemic there were corrective measures taken. Solution was found to ensure effective work also for unvaccinated students.

During the visit, no evidence of direct communication with employers was received, and no data about employer survey results are available. Also, no data for graduate surveys are available. In a meeting with the teaching staff, it was explained that information from the industry mainly comes from the student internship reports. Considering the small number of students (SAR, Annex 23) the information obtained in this way does not fully reflect the situation in the industry. Also in meeting with the director of the study field and director of the study program the main food industry sectors with which cooperation is carried out were mentioned milk, meat and alcoholic beverages. The college must communicate directly with producers covering all food sectors as much as possible (grain processing, milk, meat and eggs, vegetables and fruits, fish, alcoholic and non-alcoholic beverages, confectionery and others). Currently, the information coming from the industry is incomplete and very focused on a few sectors. Analysis of student, graduates, employers' surveys should be supplemented with data from previous years indicating if there are any improvements. Trends observed between academic years must also be analyzed and justified.

1.2.5. The website contains information about the study program "Food quality control", its goals, tasks, program content, study results and admission requirements. All the given information is compliant with information available on <https://www.viis.gov.lv/> and <https://eplatforma.aika.lv/>. Also, a description of each study course is available that is useful both for applicants and students. Information is in accordance with the SAR and is not misleading. The website also includes information about the technical and material base that promotes the interest of applicants.

Information on RTU OTC website [www.otk.rtu.lv](http://www.otk.rtu.lv) is available only in Latvian. Currently, all study programs are conducted in Latvian (SAR, p. 1.1.) therefore, translation into other languages is optional. Although it would be desirable to translate the website also in English if as mentioned in the Development and Investment Strategy 2021 - 2027 (p. 3.7. OTC international strategy), the college wants to increase the number of outgoing and incoming Erasmus students.

## **Conclusions on this set of criteria, by specifying strengths and weaknesses**

The RTU OTC has established a quality policy that is focused on the implementation of the mission of

the college, achievement of the strategic goals and sustainable development (SAR, p. 1.3.). Strategic goals are focused on improving the quality and efficiency of the existing system, however, goals are general and not easily measurable. A review of the study program is based on professional standards and student survey results. There is insufficient industry involvement in program evaluation and no benchmarking of similar study programs in Latvia or abroad. Also, no descriptive procedure for the exact steps to be taken in reviewing the study program has been developed.

The small number of students ensures that each claim can be addressed with an individual approach. However, no confirmations were obtained that complaints expressed outside the surveys are recorded and included in the annual student satisfaction analysis.

Students are well informed about the possibility of submitting claims and suggestions. They respond positively to the opportunity to evaluate the study program and study courses. For communication, students prefer to use mykoob platform or direct conversation with teaching staff and HEI management.

The main data sources for the study process and study program analysis are student claims/suggestions, student academic performance and student satisfaction surveys. Student survey and claim submitting system is more focused on the progress of the study process than the study program itself. There is no direct communication with employers and no available data about communication with graduates that would encourage the development of the study program in the right direction. Information from the industry comes from the student internship reports. The information obtained is incomplete and very focused on a few sectors.

The RTU OTC website contains necessary information about the study program “Food quality control” and information is compliant with the official registers. It would be preferable that information is available not only in Latvian but also in English.

#### Strengths:

1. Personal approach and quick response to handling student complaints

#### Weaknesses:

1. Insufficient amount of outsourced (industry, other similar study programs) data for evaluating the content of study programs.
2. Existing cooperation with the food industry is very focused and does not cover all food industry sectors.

### Assessment of the requirement [1]

- 1 R1 - Pursuant to Section 5, Paragraph 2.1 of the Law on Higher Education Institutions, the higher education institution/ college shall ensure continuous improvement, development, and efficient performance of the study field whilst implementing its internal quality assurance system:

#### **Assessment of compliance:** Partially compliant

The basis of the quality system has been developed. The lack of data and their analysis does not guide systems development in the direction of achieving the set strategic goals.

- 2 1.1 - The higher education institution/ college has established a policy and procedures for assuring the quality of higher education.

#### **Assessment of compliance:** Partially compliant

Policy is developed and publicly available on RTU OTC website. Annex 3 “Development and investments strategy 2021 - 2027” includes goals and action plans that are focused on improving the quality of higher education. However, there is no evidence about procedures

defining the activities to be performed for quality assurance on a day to day basis.

- 3 1.2 - A mechanism for the development and internal approval of the study programmes of the higher education institution/ college, as well as the supervision of their performance and periodic inspection thereof has been developed.

**Assessment of compliance:** Partially compliant

Study program is reviewed in accordance with the profession standard and the HEI and academic staff is involved in the process (SAR, p. 2.2.2.). There is no procedure that would define who, when and how reviews the study program. Also there is no evidence about sufficient data from industry and other similar study programs to ensure the relevance to the industry.

- 4 1.3 - The criteria, conditions, and procedures for the evaluation of students' results, which enable reassurance of the achievement of the intended learning outcomes, have been developed and published.

**Assessment of compliance:** Fully compliant

RTU OTC has developed the regulation "On the Procedure of Studies and Examinations" . This regulation is published in HEI website and paragraph 6 indicates integrated rating system ([https://otk.rtu.lv/wp-content/uploads/sites/29/2020/05/studiju-un-pa\\_rb.-nolikums-2020-1.pdf](https://otk.rtu.lv/wp-content/uploads/sites/29/2020/05/studiju-un-pa_rb.-nolikums-2020-1.pdf)).

- 5 1.4 - Internal procedures and mechanisms for assuring the qualifications of the academic staff and the work quality have been developed.

**Assessment of compliance:** Fully compliant

The requirements for the qualification of academic staff are listed in the RTU OTC regulations on academic positions ([https://otk.rtu.lv/wp-content/uploads/sites/29/2021/01/Nolikums\\_-par\\_akademiskajiem\\_amatiem\\_20\\_10\\_2020.pdf](https://otk.rtu.lv/wp-content/uploads/sites/29/2021/01/Nolikums_-par_akademiskajiem_amatiem_20_10_2020.pdf)). The quality of work of the academic staff is analyzed according to student surveys (once a year), scientific and creative activities, adherence to the schedule, communication with administration and students and the number of complaints. Results are discussed in individual meetings with the director of the study program (SAR, p. 2.3.5.)

- 6 1.5 - The higher education institution/ college ensures the collection and analysis of the information on the study achievements of the students, employment of the graduates, satisfaction of the students with the study programme, efficiency of the work of the academic staff, the study funds available and the disbursements thereof, as well as the key performance indicators of the higher education institution/ college.

**Assessment of compliance:** Partially compliant

In SAR and "Development and investments strategy 2021 - 2027" there are mentioned that data for student study achievements, student satisfaction, and work quality of academic staff are collected and analyzed. Student satisfaction analysis is summarized in SAR, Annex 8. SAR p. 2.2.4. mentions that graduate surveys are performed once a year immediately after graduation, however, no data analysis is available, and no evidence was obtained during the visit. Also, the same paragraph mentions that performance of teaching staff and administration is performed which was confirmed during the meeting with HEI management. "Development and investments strategy 2021 - 2027" paragraph 4 briefly indicates necessary investments for further development of RTU OTC.

- 7 1.6 - The higher education institution/ college ensures continuous improvement, development, and efficient performance of the study field whilst implementing its quality assurance systems.

**Assessment of compliance:** Partially compliant

RTU OTC strategic goals are mainly focused on improving the quality and efficiency of the existing system (Development and investments strategy 2021 - 2027, paragraph 1.4). However, lack of outsourced information (food industry trend analysis, analysis of relevant study programs in other higher education institutions) causes subjectivity in the results of data analyses and does not guide the RTU OTC development according to the direction of the development of the industry.

### **1.3. Resources and Provision of the Study Field**

#### **Analysis**

1.3.1. According to the information accessible on SAR p.25 and the information gathered during on-site visit, the College has various ways of financing the study program and the study field. The main one is a state budget grant from the general revenue for the provision of studies as it can be observed in the SAR p.26, Table 3. It reflects the total funding, total number of study places per year, number of study places in the Food program as well as funding and basic payments for the Food program. The trend that can be seen in the SAR in various tables under the Resources part is that the number of study places in the Food program is decreasing during the last years. Since 2019, the decrease has been 16 study places. It is also counter-related to the fact that the funding for the Food program has declined while the basic payment per study place has increased from EUR 3015,75 to EUR 4666,80 in the period from 2019 to 2022. The total number of study places is also decreasing in the 4-year time period. It has decreased from 102 to 71 which is more than 30 students. In 2022, the available study budget places are equal to 20, and it is the minimum number of students for the realization of the study program. When asked during an onsite visit whether they are going to manage to fill all the budget places, the College representatives answered that the application procedure is still open and they cannot predict the total amount. As stated during on-site visit, this year the College is applying a new marketing strategy to bring awareness of the College and make sure that all the interested students in the study program apply. They have managed to cooperate with Grindex and Olainfarm on this matter. Of course, the solutions of the concern about the funding of the program cannot be limited to that. There shall be found other co-funding mechanisms to ensure successful continuation and existence of the program which at this point could not be found in order to fulfil the results wished to be achieved.

The College also has managed to establish a way for a specific amount of funding devoted to research which further on is being implemented for the purpose of developing the study field and, thus, as well the study programs in correspondence with it. Due to the project "Pilot Platform of Vocational Excellence Water" (PoVE Water) in collaboration with Friesland College, The Netherlands, the study field of "Manufacture and Processing" at Mechanics and Technology College of Olaine received EUR 32 170. As far as observed during onsite visit and based on the information provided in the SAR, the financial basis of the scientific research is only limited to what has been received through projects which raises a concern in a sense - what is going to happen in situations where there is no project funding available?

1.3.2. As stated during on-site visit and SAR p. 28, thanks to various types of funding as investments made for the 2010 ERDF project "Modernization of OMTK premises and equipment to improve the quality of study programs" and Project no. 8.1.4.0/17/I/005 "Improvement of the study environment in Riga Agency of the Technical University of Riga Technical University Olaine Technology College", the College has had a great opportunity to establish new laboratories with freshly new equipment for

students to develop their practical skills and knowledge. According to SAR p. 27, in the autumn of 2020, 11 new laboratories with suitable equipment were introduced in the main building of the College. 4 of those 11 laboratories are used for the "Food Quality Control" study program. These four laboratories were also shown to the experts during on-site visit: 1. Inorganic and organic chemistry study laboratory; 2. Analytical chemistry study laboratory; 3. Food technology study laboratory; 4. Microbiology training laboratory. All of these laboratories are equipped with brand new furniture and equipment such as an ultrasound bath for organic and inorganic chemistry, a drying cabin, water treatment equipment, a machine for evaluation of the freezing point of ice, a laminar cabin, ice cream-making machine, vacuum, clippers for sausages, ice generator. Students regularly have lectures in the laboratories where they can freely access everything needed. In case students wish to do research work outside lectures, they are allowed to do so.

It has been stated within the SAR p.28, regarding the informative and technical base formation that in the past it has been EUR 20 455.58, but it is unclear whether this amount has been the sum of money yearly devoted or not. The annex there that has been indicated is not possible to be accessed to have a deeper look at how the system or procedure of the resource (purchase, methodological, informative) base is being formed, how much money and to what purposes is being organized.

1.3.3. Within the College itself, the library resources and databases accessible are very limited. There is no variety of the resources and the links provided within the SAR p.29 are open access databases with no or very limited practical use such as Thesaurus and Terms. As found out during an onsite visit, it became clear that the students of the College, when in need of more extensive resources such as books or access to specific databases, can register and access the materials through RTU which widens the resource base available for study processes. As stated by students, the registration process is not complicated, and when once registered, the resources are rather easy to be found. As students indicated that it is not a big problem for them to access the resources in other libraries or databases, at this point it is not seen as a big problem. However, it is highly advisable for the College to improve its resource base through the next years as students should not have to drive to another city for example Riga just to pick up a book. It can happen sometimes but not on a regular basis that the library does not have some resources that they need for studies.

1.3.4. During on-site visit, it became clear that the College uses various tools of information and communication technology solutions such as Moodle e-environment, Mykoob platform and RTU OTC website. As stated both during on-site visit and SAR p.30, Mykoob is used as a communication platform, and students have transparent topics and assessments. Moodle is used as a website for study course materials, independent work, practical work and midterms. It became unclear to experts why all of these procedures cannot be combined in one platform as Moodle. For that question, the expert team received different answers - 1. It is being done because of GDPR and student data as Moodle is not certified; 2. The College is planning to switch to one platform in the future.

During Covid pandemic, all the study materials for students were posted in Moodle or sent to Mykoob e-environment. As clarified by the students, lectures took place on various platforms and were mostly influenced by lecturers' choice - Zoom, Skype, Whatsapp without one common system to which platform should be used. In the mind of experts, it complicates the study process of the students to remember every time which platform which lecturer uses. It would be way easier if one common platform is used with links shared on Moodle under every specific course that can be reused by just clicking on the same link.

Practical work including laboratory work was recorded by lecturers in the laboratory and sent to students, in other study courses such as chemistry, biochemistry, microbiology, etc. virtual labs were used: labster.com, chemcollective.org, etc. platforms, as well as simulations and entries

available on Youtube.com. Otherwise, the group work took place in small groups onsite when possible.

1.3.5. The College has stated on the SAR p.31, that due to limited resources, they cannot afford to publish vacancies on paid platforms which significantly limits the possibilities of reaching a large number of potential workforce. Usually, the job vacancies are published on the website of the College. The College admits that the responsiveness of the vacancies has been low. In order to address the issue of the involvement of the teaching staff, the lecturers, in cooperation with other higher education institutions, are addressed in person, who mostly establish cooperation for more than one academic year. Although it seems that the College ends up finding the workforce, it is highly necessary to have wider and more open competition for the purpose of filling the vacancy. When asked during an onsite visit about employing previous graduates, the College stated that they have tried, but no graduate has come back specifically to the Food Quality Control program to teach. So, it seems that the stakeholders have limited information about the College and the competition is only partly - open. Overall, there are preconditions and criteria set for evaluation of the potential candidates: Acquired education; Pedagogical work experience; Professional work experience; Achievements in science and/or creative work; Communication skills. Since the College is now part of RTU, it might be relevant to ask for assistance to spread the vacancies on their website and through the channels accessible to them.

1.3.6. When asked during an on-site visit, the teaching staff shared that they are actively participating in various conferences and projects outside the College. One of the lecturers mentioned that they have now been trained how to post grades on Moodle which they did not know how to do before. Lecturers also admitted that they develop their English skills with their own resources. Lecturers are encouraged to participate in pedagogical seminars to raise their qualifications. They manage to participate in various projects in parallel to lecturing such as scientific conferences or going abroad on Erasmus mobility projects such as Agrofood Conference in Burgas, the year before in Helsinki. Although, it has to be noted that a lot of these projects are more related to chemistry and biology, not food quality control specifically. Overall, it can be concluded that the teaching staff is willing to grow and expand their knowledge on certain topics, but it is not exactly clear to what extent it is their own initiative and where the College is getting involved and supporting the growth of the teaching staff. If a lecturer wishes to improve the skills of a specific language, it is a highly desirable and supportive decision which should also be encouraged by the College as the employer and being financially supported. During on-site visit, it did not become clear how the College is evaluating the added value from the activities that the teaching staff performs for the improvement of their qualification. One of the groups said that they appreciated the initiative and encouraging lecturers to go abroad in seminars through Erasmus funding while at another meeting it became clear that lecturers wished to improve their English language to be able to go on Erasmus projects, but the College is not financially helping to do so.

1.3.7. From the information gathered on-site, it became clear that the majority of the lecturers are not permanent staff members and are also employed in other higher education institutions. One of the lecturers mentioned she is also employed by RTU and the other one stated - Novikontas Maritime College. Teaching staff are satisfied with the workload they have as they can find time for other things and duties in their lives. From an expert's point of view, it is a major problem that only a few people on the teaching staff are permanent staff members. The College has to be aware of this and try to find a solution regarding this matter over time. It means that the base of employment for the lecturers is elsewhere and as found out during on-site visit, the majority of their research work is done in those other institutions as well where they are employed. That is not good for the College for a longer period of time, and it has to be changed.

1.3.8. At the College, students mentioned that they had been provided with various types of support when needed. One of the students mentioned she received psychological support during Covid time when things seemed to get tough. The College was coming forward and helping her. Also, she was very happy that she had gotten a one-time scholarship which helped her a lot during the process of studies and working in parallel. The College has also been actively participating in finding internships for students. Some internship vacancies have been sent to mykoob.lv, while some of the students managed to have individual consultations and received help finding the right place regarding their interests. Students mentioned that they have managed to get internships in the biggest companies such as SIA "Ogres Prestižs", "Rīgas piena kombināts", "Līcīši". During onsite meetings with lecturers, an expert group found out that students are also actively visiting various employers such as "Latvijas Balzāms", "Latvijas Piens", "Orkla" for study purposes. It seems that students are happy with the support given by the College and satisfied of coming forward and helping to find an internship place.

### **Conclusions on this set of criteria, by specifying strengths and weaknesses**

The College has highly new and advanced laboratories for students to do practical tasks. Students have limited library resources onsite, but they can easily access the necessary resources through RTU and other databases. The overall number of students is decreasing with every year as well as the funding while the expenses are increasing per student. The College struggles to fill all the state budget places. The informative material base is unclear. The College uses various platforms for everyday purposes which is insufficient. The College is involved in helping students to find internships. The lecturers are hard to find due to limited resources, and very few of them are permanent staff members. They also struggle to employ previous graduates. Lecturers participate in various projects and develop the skills of the English language with their own resources. Students are being provided various forms of support including psychological.

#### **Strengths:**

1. Brand new laboratories and advanced equipment
2. The College is involved in helping students to find internships
3. Students are being provided various forms of support including psychological
4. Students can access databases and library resources in RTU and other places

#### **Weaknesses:**

1. The lecturers are hard to find due to limited resources
2. Struggle to employ previous graduates
3. Struggles to fill all the state budget places
4. Informative material base is unclear. It has not been clarified how much money is devoted to resource base development every year.
5. No unified system of platforms used (Mykoob and Moodle for study materials, and communication) and (Skype, Whatsapp, Zoom) for lectures
6. Most of the lecturers are not permanent staff members of the College and are employed elsewhere
7. Research financial base is existent only through money that has been received through projects
8. Lecturers are developing their language skills with their own resources
9. Hard to employ people as the vacancies are only posted on the website of the College.

### **1.4. Scientific Research and Artistic Creation**

#### **Analysis**



1.4.1. In SAR, RTU OTC states a strategic goal of improving practical scientific activities by linking education and research, conducting product development, and creating topical educational programs in the field of STEM. During the site visit, it became clear that there were no plans or visions for developing STEM research, and neither the HEI management nor the study program management had a clear plan for research in the STEM field.

The main research activity is within the field of food chemistry, which is relevant for the study field and the industry. During the reporting period, four teaching staff members wrote five publications on food quality issues, which were printed in the collections of scientific articles of RTU OTC Scientific-Practical Conferences. However, to achieve a more comprehensive approach to food quality and safety, the teaching staff should also research other aspects, e.g. food microbiology, which is highly important for the food industry.

1.4.2. RTU OTC has stated a development goal to improve the connection between research and education. As stated in chapter 1.5.1, RTU OTC's cooperation with food industry partners is not well established beyond internship placements. The interviews with employers, staff and students during the campus visit revealed no clear evidence of research cooperation between RTU OTC and food companies in which students are involved. Staff members should actively involve industry partners and students in applied research to fulfil the students learning outcomes.

1.4.3. According to SAR, five lecturers have participated in international food conferences, and several lecturers have been guest lecturers at foreign educational institutions within the framework of Erasmus mobility. However, there is no evidence of international cooperation in research and the students attending the interviews during the campus visit had not attended any lectures with foreign researchers. Thus; RTU OTC should encourage foreign guest researchers to visit their campus to join research and teaching. However, a barrier is that most of the lecturers at RTU OTC are not permanent staff members, and do most of their research at other institutions and not in the well-equipped laboratories at RTU-OTC. To invite international researchers, RTU OTC should increase the research activity in their own facilities. During the campus visit, a tour of the laboratories revealed state-of-the-art equipment, which is an advantage RTU OTC can use to attract international researchers and also perform research activities of quality that can be published internationally. The facilities are also a major advantage for doing applied research in collaboration with the food industry.

Furthermore, lecturers contribute to RTU OTC Scientific-Practical Conferences; however, some staff members should aim to publish and present internationally. During the visit, it became clear that few staff members and students were comfortable talking in English. To strengthen international cooperation, the competence level in English must be improved. A college does not need comprehensive international research cooperation, but to stay relevant and informed some staff members should attend the international research arena, by attending international conferences and publishing research papers in international journals.

1.4.4. Four lecturers had published papers on food quality issues during the reporting period, and the papers were not published internationally but at the RTU OTC Scientific-Practical Conferences. During the management meeting, no mechanisms or strategies were addressed that could contribute to increasing the staff competence or engagement in research.

A clear strategic plan must be developed to increase the research activity, as stated as a goal for the coming period. RTU OTC should stimulate career development among staff, and more applied research should be conducted in their very-well equipped laboratories. During meeting with the staff members, the impression is that most of their research is conducted in other facilities/positions. Development of research activity is impossible if the management facilitates/encourages research, and lecturers themselves must actively participate. Therefore, the college should make measures for

employees with research interests to have the opportunity to prioritise research, e.g. funding or fewer teaching duties.

1.4.5. During the meeting with staff members, they confirmed that students could be involved in research, but the impression of the expert group was that research had to be initiated by the students themselves. Students can be involved in research during their internship, and the students write a qualification paper which constitutes eight credits. During the meeting with the students, it was stated that the topics for the student's final qualification paper were made according to a common principle - "Quality control of ...(food product or food production process)". The food product or production process is selected individually. Thus, the students do individual independent work, however, it does not have a research approach with hypotheses and research questions. The college has not developed proper mechanisms to involve students in applied research, and a plan should be developed and followed up by the head of the study program and the management of the college. The plan should contain specific measures on how students can be more involved in research, e.g. linked to specific courses and/or the final qualification paper. A proposal is to make the final qualification paper more linked to research activity. To achieve this, the staff members need to conduct active research in RTU OTC laboratories, which again is linked to time to do research in their positions at RTU OTC.

1.4.6. The SARs (p.36) demonstrates that the study field applies various learning methodologies (lectures, practical laboratory work, internships, group work, oral- and written presentations) for the students to achieve the described learning outcome. One major advantage is a very tight connection between the teachers and the students. This was highlighted by the students during the campus visit. No innovative solutions were observed compared to corresponding education elsewhere. The experts think the teaching methodology is satisfactory, however to attract more students and provide students with improved generic skills (problem-solving, critical thinking, communication etc) more focus on active and innovative pedagogical methodology is required.

### **Conclusions on this set of criteria, by specifying strengths and weaknesses**

RTU OTC has a goal to increase the research activity, however, a clear plan on how to reach the goal is not presented in the SAR nor at the site visit. Some individual staff members are involved in relevant research, however, several fields are not covered, and the involvement of students in research is limited. A variety of food industries should be involved in applied research at RTU OTC.

#### **Strengths:**

1. Commitments from individual staff members in relevant food research
2. Well-equipped laboratories to do applied research

#### **Weaknesses**

1. Lack of a clear career development plan to achieve increased involvement in research
2. Insufficient involvement of a broad food sector and students in applied food research
3. Low competence level in the English language among staff members is a barrier to involvement in international research collaboration and writing international publications

## Assessment of the requirement [2]

- 1 R2 - Compliance of scientific research and artistic creation with the level of development of scientific research and artistic creation (if applicable)

### **Assessment of compliance:** Partially compliant

RTU OTC has a goal of improving research activity, and five staff members are stated to actively contribute to research. However, international research collaboration as well as applied research involving the food industry and students are limited.

## 1.5. Cooperation and Internationalisation

### Analysis

1.5.1.SAR indicates (page 41) information on RTU OTC cooperation with the industry in the field: 5 confederations or associations (e.g. Latvian Chemical and Pharmaceutical Association, Latvian Biotechnology Association, The Association of Latvian Chemical and Pharmaceutical Industry, etc.) and 16 various companies (e.g. SIA "Bauskas ūdens", JSC "Latvijas balzams", JSC "Rīgas Piena kombināts", SIA "EKO Osta", SIA "Jelgavas ūdens", etc.) listed as important social partners. Its claims that collaboration with partners ensures programs updating by following the labour market's needs and trends. However, SAR did not provide an example, and site visits did not collect any evidence on how this is happening. The main message from the employers was that companies offer places for an internship for the students, which works as an instrument to attract new employees. There is no clear track of how this collaboration contributes to achieving the aims and learning outcomes of the study field and the program.

SAR states and representatives confirmed during the site visit that the cooperation relies on personal contacts, and there is no structure on how and who to select as partners. The whole picture of the Latvian companies acting in this study field is currently unknown for RTU OTC. Experts identified a big room for improvement in this field of RTU OTC activities. The database of local and international companies working in the food production sector also higher education institutions performing in this study field could be developed and used in order to expand and make a more systemized form of cooperation.

SAR also indicates close cooperation of the study programme "Food Product Quality Control" with the Latvia University of Life Sciences and Technologies. The cooperation has a long tradition, but it is based on the fact that college students use the collections of the university's library resources and subscribed databases. No other benefits to the study programme or field were discovered in the SAR or during the on-site meetings with representatives.

Considering that the college is a part of RTU university, there is room for closer cooperation between these institutions, especially while sharing academic resources (e.g. teaching staff and academic library resources).

1.5.2. The SAR provides 2 examples of RTU OTC cooperation on bilateral agreements with foreign higher education institutions (Aarhus Business Academy in Denmark and Pyramid in Maribor, Slovenia) and some mention participation in the ERASMUS+ program. However, very little information and data were provided in the SAR for the reporting period on this topic. During the on-site visit, no evidence was collected on international cooperation in terms of outgoing and incoming students and teachers coming from abroad as guest lectures or similar. The mode of how RTU OTC selects international partners remains unknown. The global pandemic also had a negative impact on the implementation of this field of activity. Despite that, the representatives of students and graduates did not participate in the international mobility under ERASMUS+ and could not provide any example or evidence of "internationalisation at home" mode in they studies.

Experts suggest increasing the level of international cooperation with partners from abroad. Such cooperation could contribute to achieving the goals of the study field and the relevant study programme.

1.5.3. The information in the SAR regarding this point mainly describes the steps made by the College to obtain an Erasmus + Student Charter (2014-2015), the Erasmus Higher Education Charter 2014-2020 awarded to the RTU OTC. In 2020 the RTU OTC developed and submitted a new draft ERASMUS Charter for Higher Education in English for 2021-2027. RTU OTC has taken action regarding developing this point of internationalisation. For example, The SAR indicates that students are less interested in opportunities to study abroad within the exchange program. The main reason for that is insufficient knowledge of foreign languages. The College envisages improving the study course "Foreign Language" to respond to the situation. No concrete indication of "when" the college envisages improving mentioned study course. Nevertheless, there is no evidence of the system and procedures or the attraction of the teaching staff and students from abroad within the study field. It is also too early to speak about the effectiveness of such a system, especially considering such a small number of students.

### **Conclusions on this set of criteria, by specifying strengths and weaknesses**

Conclusion. "RTU OTC cooperates with Latvian associations and business companies acting in the food production sector. Business companies offer places for an internship for RTU OTC students, which works as an instrument to attract new employees. The cooperation with the business partners mainly relies on personal contacts, but no structure was identified on how the partners are selected. The RTU OTC cooperation with the Latvian University of Life Sciences and Technologies is based on those college students able to use the collections of the university's library resources and subscribed databases for their studies. International cooperation is very limited. In conclusion, the field of cooperation and internationalisation of RTU OTC activity lacks the structure and system and needs further implementation and development."

#### **Strengths:**

1. The local companies provide a place for an internship for RTU OTC students.
2. Cooperation with Latvian University of Life Sciences and Technologies provides college students to use the collections of the university's library resources and subscribed databases.

#### **Weaknesses:**

1. No structure and clear system of selecting partners for cooperation with associations in the field and the companies in the industry.
2. The cooperation of RTU OTC with institutions from abroad is very limited and needs to be fostered.
3. No evidence of students' internationalisation or incoming teachers from abroad was identified in the SAR or during the visit.

### **Assessment of the requirement [3]**

- 1 R3 - The cooperation implemented within the study field with various Latvian and foreign organizations ensures the achievement of the aims of the study field.

#### **Assessment of compliance:** Partially compliant

RTU OTC cooperates with Latvian associations and business companies acting in the food production sector. Business companies offer places for an internship for RTU OTC students, which works as an instrument to attract new employees. The cooperation with the business

partners mainly relies on personal contacts, but no structure was identified on how the partners are selected. The RTU OTC cooperation with the Latvian University of Life Sciences and Technologies is based on those college students able to use the collections of the university's library resources and subscribed databases for their studies. International cooperation is very limited.

## **1.6. Implementation of the Recommendations Received During the Previous Assessment Procedures**

### **Analysis**

There are in SAR (p.43.) and annex 17 totally, in total eight recommendations, of which six are implemented, and two are partially implemented. The recommendations are from the previous accreditation in 2012.

The experts' recommendation that "RTU OTC definitely needs some additional financial resources from the government to ensure high-quality study process" has been fulfilled, because as a result of 2 implemented EU ESF projects, the energy efficiency of the building has been increased and new, modern teaching laboratories have been installed.

The recommendations "The developed plans/projects for student mobility should be prepared" and "Preparation and implementation of mobility plans for the academic staff should be performed" has essentially been implemented because the RTU OTC has developed a document "ERASMUS+ mobility program regulations" that determines the procedure for student and staff mobility. At the same time, when meeting with students and graduates, it was mentioned that students do not use ERASMUS+ mobility opportunities because the procedure is not very clear, and graduates also mentioned that they would have liked to have used such an opportunity if it had been available. Academic staff are very active in using mobility opportunities.

The recommendation "The study program should take into account the opportunity to integrate the study modules with other HEIs in the region, Latvia and also abroad" has been partially taken into account. RTU OTC cooperates with higher education institutions in Latvia. During the meeting, RTU OTC representatives mentioned that programs have been agreed with Latvia University of Life Sciences and Technologies, which enable RTU OTC graduates to continue their studies at later stages of study and obtain a bachelor's degree. Also, RTU OTC is currently a structural unit of RTU. At the same time, there are no integrated study models in other HEIs outside of Latvia.

Although it is mentioned in SAR (page 39) and Annex 17 that the recommendation "More invited lecturers and professionals from the industry should be welcome" has been implemented, it was not possible for the experts during the visit to obtain convincing evidence that it is precise with food industry specialists that close cooperation has developed. Since the study field "Manufacture and processing" and the study program "Food Quality Control" are being evaluated, the mentioned recommendation has been partially implemented.

The recommendation "Preparation of young specialists for the implementation of the staff development policy" has been introduced, because according to SAR (page 66) new employees have been recruited and RTU OTC has developed a "Human Resources Development Plan for 2017-2022" and recruited five new teachers, from among graduates. This recommendation was necessary to implement until 2017. But still, next experts recommend to "Develop a strategy for attracting college teachers", and this recommendation is necessary to implement by 2030. Strategy for attracting college teachers is integrated as one of the priorities in the RTU OTC "Development and Investment Strategy 2021-2027". This recommendation has been implemented.

The recommendation "To ensure the qualification of the teaching staff involved in the implementation of studies in accordance with the Law on Higher Education Institutions" has been implemented (SAR, page 66), because all lecturers involved in the program have the appropriate education.

## Conclusions on this set of criteria, by specifying strengths and weaknesses

In total, out of eight recommendations, six have been implemented, and two have been partially implemented.

Strengths:

1. Most of the recommendations have been implemented

Weaknesses:

1. Cooperation with food industry companies, their representatives and specialists has not been established.
2. The study program does not take into account the possibility of integrating study modules with other HEIs abroad

## Assessment of the requirement [4]

- 1 R4 - Elimination of deficiencies and shortcomings identified in the previous assessment of the study field, if any, or implementation of the recommendations provided.

**Assessment of compliance:** Partially compliant

Two out of eight recommendations have been partially implemented. However, the partially compliant rating is affected by only one of the recommendations, which is partially fulfilled, that is, cooperation with the industry. Professional education is implemented in the studied field, which determines that cooperation with the industry is essential. In this case the evaluation is affected

## 1.7. Recommendations for the Study Field

### Short-term recommendations

- |  |
|--|
| 1. 2023/2024 to review the content of the study program together with industry representatives for the academic year.  |
| 2. Develop a plan for attracting students until the start of student enrollment in the 2023/2024 academic year.  |
| 3. Within two years, develop a management scheme for the study field, determining the procedures for solving issues of the involved persons.   |
| 4. Research other higher education study programs in the food industry in Latvia and internationally. In the next review of the study program, carry out an analysis of the RTU OTC study program "Food quality control" against equivalent higher education study programs. |
| 5. Schedule participation in industry events such as Riga Food 2023 and others to approach companies and gain new contacts till the 2023/2024 academic year. Implement a contact database that is accessible to academic staff for direct communication with employers.      |
| 6. Have one platform for remote studies. All lecturers have to use one platform, not everyone can use what they prefer. It complicates the study process for students.   |

7. To reach its goal of increasing the research activity, RTU OTC is recommended to develop a research development plan which includes a plan for (1) career development among the staff, (2) engagement of the food sector and students in research, and (3) increasing the competence level in English among staff members.

## Long-term recommendations

1. Until the next accreditation, implement a system for checking students' semester works for signs of plagiarism.
2. Manage to employ some of the graduates at least as guest visiting lecturers.
3. Find funding to ensure the official public vacancy publishing process on ads platforms which is not limited to publishing vacancies on the website of the College.
4. Find an effective strategy that stabilizes the number of students per study year and makes sure that the state budget places are not continuing to decrease.
5. Make sure that the tools of Mykoob are implemented in Moodle so that there is only one study platform where everything is accessible.
6. Ask for assistance from RTU to spread the vacancies on their website and through the channels accessible to them.
7. Make a clear outline in a form of a table or spreadsheet that gives clearance on an informative material base that includes all the relevant resources and their distribution- where the money goes and for what purposes every year for resource development.
8. Devote specific amounts of resources for teaching staff skill development in order that lecturers do not have to pay for the skill development from their own pocket.
9. Ensure more permanent staff of the College because right now most of the teaching staff are visiting guest lecturers.
10. Till the next accreditation to establish close cooperation with food industry companies, their representatives and specialists. It is necessary to create a structure and cooperation system with industry associations and industry companies.
11. Till the next accreditation, the study program should take into account the opportunity to integrate the study modules with other HEIs abroad
12. To increase research activity, RTU OTC should allocate incentive funds to stimulate research activity among staff members.

## II - "Food Quality Control" ASSESSMENT

### II - "Food Quality Control" ASSESSMENT

#### 2.1. Indicators Describing the Study Programme

##### Analysis

2.1.1. Study program Food quality control is a short-cycle professional higher education study program. The program, both in name and in content, fully corresponds to the relevant field Manufacture and processing. The study program is prepared by Food quality specialists for food

production companies or company laboratories. The duration of the studies is 2 years (SAR, p.49). The main purpose and duration of the study program seem appropriate for the study field.

2.1.2. The name of the study program corresponds to the study program code 41541 according to the Latvian education classification (Latvian Cabinet of Ministers Regulations No. 322, <https://likumi.lv/ta/id/291524-noteikumi-par-latvijas-izglitiba-klasifikaciju>), which means that the first two digits "41" indicate that the study program is a short-cycle professional higher education study program (level 5 of the framework of Latvian and European qualifications; <https://likumi.lv/ta/id/330784> ) and the last three digits "541" indicate that the study program is part of the "Food Production Technologies and Product Production" program. That way the awarded qualification "Food quality specialist" corresponds to the code and title of the study program.

Furthermore, the professional nature of the "Food Quality Control" program and the qualification "Food quality specialist" comply with the Latvian Cabinet of Ministers' regulations no. 141 "Regulations on the state standard of first-level professional higher education" (<https://likumi.lv/ta/id/6397-noteikumi-par-pirma-limena-profesionalas-augstakas-izglitiba-valsts-sta> ) (Compliance with the state education standard - Appendix 28) and the professional standard approved by the Ministry of Education "Professional standard Food quality specialist" (No. 7, December 15, 2021; <https://registri.visc.gov.lv/profizglitiba/dokumenti/standarti/2017/PS-193.pdf> (Conformity of the qualification to be obtained in the study program to the standard of the profession or the requirements of the professional qualification - Appendix 29).

The study program is held in the Latvian language. The study program is offered in a full-time studies format of a period of 2 years in the amount of 80 Latvian study credit points or 120 ECTS.

When evaluating the compliance of the content of the study program with the standard of the profession, the knowledge necessary for the performance of the basic tasks of the professional activity at the level of understanding about "compilation and implementation of shelf life monitoring", as well as the necessary knowledge at the level of use about "the shelf life of raw materials and materials, their types", "specific storage requirements" , "compatibilities of raw materials and materials in storage", "expiry date monitoring procedures for various food products", "European and international bar code labels (EAN, IAN codes)", "labeling of samples for quality assessment for the laboratory", "food product storage regimes", can be learned only in the study course "Food expiration date", but this study course is optional (appendices No. 24 and No. 29). Also, the knowledge required for the performance of the basic tasks of the professional activity at the level of use on "new food product / project development stages", "new food product specification development", "new food product concept evaluation conditions" can be learned only in the study course "Innovations in the food industry", but also this the study course is optional (appendices No. 24 and No. 29). Also, the knowledge necessary for the performance of the basic tasks of the professional activity at the level of use about "the mutual interaction of raw materials and materials of food products (the mutual compatibility of food products)", "the rules of labeling food products", "the content of labeling information", the materials of the new product, the label, the form, etc. elements", "basic principles of developing product specifications, product passport", "explanation of professional terms of the food industry, specifications of various products / passport information" can be learned only in two optional study courses "Food expiration date" and "Innovations in the food industry".

Therefore, if the student does not choose the relevant study course, he does not acquire the necessary knowledge according to the professional standard, which is essential for food quality specialists.

The study program content mapping reflects the correspondence of the study courses to the results of the study program (Appendix 27) and the following study outcomes are defined for the program: knows and understands food quality assurance and quality system management; knows and understands the technology of food production; knows food testing methods; knows management of



hygiene requirements in the food chain; knows food legislation; able to organize sampling of raw materials, food products and indoor environment for quality control in laboratories; able to perform chemical analysis and microbiological testing of food products in accordance with the requirements of the standards; able to handle equipment and apparatus used in food control laboratories; able to organize and provide verification of important and other measuring equipment, calibration of measuring instruments; able to introduce testing documentation in laboratories and plan hygiene inspections in the company; able to assess the conformity of the equipment, equipment, agents, agents and other materials required for testing to the task and quality requirements, as well as to organize their use and storage; able to summarize and statistically process the obtained test results; able to control the compliance of food product quality with regulatory technical documentation; able to create and maintain a quality system documentation in the company, analyze food risks and plan necessary laboratory tests. Study results are aimed at achieving the goal of the study program (SAR, p.48): to prepare 4th level professional qualification food quality specialists for food production companies or company laboratories and/or quality control laboratories that organize and/or perform regular sampling of the external environment, raw materials, intermediates and finished products for laboratory testing. or perform sample registration, chemical and microbiological analyzes in accordance with the internal quality and/or safety system developed in the company, present the results of the analyses, compare them with the requirements of the standard and the safety of foodstuffs and their raw materials. The tasks of the study program (SAR, p. 48) are aimed at achieving the goal of the program and study results. Tasks of the study program: to ensure the acquisition of the profession in accordance with the requirements of the food industry; to provide students with an opportunity to develop skills and abilities in raising and solving professional problems; to ensure the quality of education at a level which allows for further education in Level 5 and other higher education programs; to carry out applied research

According to this, it can be considered that the study results are interconnected and correspond to the goals of the program. Considering that the study program is an entry-level higher education program (short-cycle professional higher education), the admission requirements are simple. Admission rules are the same for all study programs implemented by RTU OTC. Admission is based on the results of centralized exams in mathematics, Latvian and a foreign language (RTU OTC admission rules in the 2021/2022 academic year, paragraph 3.2).

2.1.3. According to SAR (p. 49), RTU OTC, based on the decision of the RTU OTC council, made changes in the duration, content and amount of credit points of the study program. The duration of the program's implementation was shortened from 2.5 years to 2 years, correspondingly reducing the amount of the program from 100 KP to 80 KP. Changes in the content of the program were made both based on the new scope of the program and also so that the content meets the requirements of regulatory acts (to the Cabinet of Ministers Regulations No. 626 "Regulations on (..) and Professional Qualification Requirements Included Therein", dated October 9, 2018, and Cabinet Regulation No. 141 "Regulations on the State Standard for First-Level Professional Higher Education"). New study courses were developed: human anatomy and physiology, sanitation and hygiene in food companies, nutritional value of food products, sensory evaluation of food products, nutrition education, business professional competence module, ICT application in food industry, innovations in the food industry and shelf life of food. At the same time, the study courses: measuring equipment, food processes and apparatus in the food industry were integrated into other study courses.

Reducing the duration of studies from 2.5 years to 2 years makes this study program more attractive to students, and it also corresponds more to the name "short-cycle professional higher education study program". At the same time, the new content of the study program has not been evaluated by industry representatives, which makes it impossible to unequivocally claim that the changes made in the content of the study program are justified. Also during the experts' visit, meeting with students and graduates, it was pointed out that the content of the study program is

very broad, students need to learn many study courses. Based on this, experts believe that perhaps the content of the study program would be more attractive to students if a model system was used, such as a food production technology model, a quality evaluation model, etc.

2.1.4. Despite the fact that there is a lack of specialists in the food industry and the study program offered by RTU OTC with such specialization is the only one in Latvia (<https://eplatforma.aika.lv/index.php?r=site%2Fprogram%2Flist&Name=P%C4%81rtikas+produktu+kvalit%C4%81tes+kontrol%C4%81&Institution=&StudyDirection=&IKKDescriptionShort=&StudyYears=&StudyMonths=&Lang=&Key=&Level=&KP=&IKKGroup=&Degree=&Qualification=&AccreditationStatus=accredited&AccreditationLength=&AccreditationTo=&JointStatus=&detail-search=> ), however, the dynamics of the number of students and graduates of the study program prevent us from expressing an unequivocal statement about the economic justification of this program.

According to SAR (page 56), the number of students in 2020/2021 and 2021/2022 there are 9 and 8 students respectively. At the same time, the allocated budget places in 2020 and 2021 each has 25, but in 2022 is 20 (SAR, p. 26). So, the filling of the budget places is only about 40%, as a result making this program relatively expensive and the economic efficiency is questionable. During the visit, RTU OTC representatives mentioned that in order to reduce the costs of program implementation, general study courses are implemented together with students of other programs. Such a solution allows to reduce the costs of program implementation but creates risks in the qualitative implementation of the program content and the achievement of the planned program results.

Regarding graduates of the program, according to SAR (page 57), 2018/2019 academic year there were 4 graduates, but in the 2019/2020 academic year there were only 2 graduates. This shows that the existing admission rules and the non-existent competition for entering the study program (because the number of budget places is greater than the potential number of those who want to study), give the opportunity to anyone to enter there, but when starting studies, it is concluded that the content of the study program is complex (for example, many subjects that are related to the STEAM field) and studies are interrupted. During the visit, the RTU OTC representatives mentioned that the largest number of applications from potential students are received when the universities/high schools have announced their study results and those who wish to study, who have not qualified according to the results of the competitions for state budget positions, choose to study at the RTU OTC. At the same time, RTU OTC has indicated in its SAR (page 56) that the main reason for stopping studies is the inability to combine full-time work with studies. During the visit, RTU OTC representatives mentioned that a large part of the existing students is working people, maybe RTU OTC should purposefully create a part-time study form or carry out full-time studies on weekends, giving the opportunity for working people to participate in the study process fully. Experts believe that the increase in the number of students could be facilitated by cooperation with the industry.

2.1.5. Not applicable.

## **Conclusions on this set of criteria, by specifying strengths and weaknesses**

The study program educates Food quality specialists, which are necessary for food industry manufacturing companies and controlling institutions. The study program fully corresponds to the corresponding field of study, both in terms of name and content.

The study results of the study program meet the objectives and standards of the program, but the content needs to be reviewed together with industry representatives. The program has a very small

number of students and graduates, which precludes the possibility of claiming that the implementation of the study program is economically justified.

**Strengths:**

1. The duration of the program is 2 years, which is attractive so that students can quickly get an education and integrate into the labour market.

**Weaknesses:**

1. The content of the program has not been evaluated by industry representatives for its compliance with the needs of the labour market.
2. Approximately only 40% of state funding places are fulfilled with students, which makes the program economically unviable.

## **2.2. The Content of Studies and Implementation Thereof**

### **Analysis**

2.2.1. The volume of the study program is 80 credit points, and the duration is two years full-time (4 semesters). The general education training courses are 20 credit points; and compulsory study courses of the field, including free elective courses, are 36 credit points. Practice accounts for 16 credit points, and the qualification paper constitutes 8 credit points. Thus, the study program complies with national regulations for first-level professional higher education (Cabinet Regulation No. 141 "Regulations on the State Standard of First Level Professional Higher Education")

There are in total 32 different study courses implemented in the study program "Food quality control". They are mutually complementary and explanatory and ensure the achievement of the goal of the study program. The main study courses but not the only ones ensuring the achievement of the goal are food microbiology, all chemistry courses implemented in the study program, instrumental analysis, food quality and legislation, and technologies in the food industry (SAR, parameters characterizing study program; Annex 27). The level of knowledge to be obtained in the study courses is specified in accordance with the profession standard "Food quality specialist" (PS-193.pdf (visc.gov.lv)). Also, the learning outcomes are identified according to knowledge, skills and competencies which must be obtained during the study program. SAR Annex 28 shows compliance with the minimum requirements that must be met in relation to the national standard. Also in SAR Annex 29 all of the knowledge required for the professional activity of a qualified specialist is listed, and the corresponding study course that provides it is identified. For example, the description for the study course "Food quality and legislation" (SAR, Annex 25, study course description no 23) includes all of the topics listed in Annex 29 in order to successfully ensure the necessary knowledge according to the professional standard.

One weakness/obscurity identified is related to competence goal 3.2 is «The candidates should be able to summarise and statistically process the obtained test results". It is not clear in which courses basic statistics are in thought. Annex 27 "Mapping of study courses of the study program Food Quality Control" states that several courses, including Foreign Language and Human Anatomy and Physiology, contribute to the competence goal. Statistics is important knowledge in food quality control, and even if a practical approach is applied to teach the topic a general introduction to the theory is required.

During the meeting with academic staff, it was found out that lecturers in the process of course review also communicate with each other so the study courses are complementary and the same information is not duplicated. Also in meeting with HEI management, it was repeatedly emphasized that the RTU OTC study program "Food quality control" prepares professionals and the emphasis is on practical skills rather than scientific activities. It was also noted positively in the meeting with the

employers - graduates are well acquainted with industry processes and understand their responsibilities in the company. However, it should be mentioned again that there is no evidence that representatives of the industry would also participate in the review of the content of the study program. The only reference for the relevance of the study program to the industry is the students' internship reports. The study program includes compulsory general education study courses Labor protection, Environmental protection and Civil protection.

#### 2.2.2. Not applicable.

2.2.3. Study program "Food quality control" is implemented only in Latvian and under normal global conditions (COVID-19 virus) they are full-time studies in person. It is not a joint study program.

According to SAR 3.2.3. the study process consists of acquiring theoretical knowledge in person, independent and practical work in RTU OTC laboratories. Several teaching methods during the study process are used - lectures, seminars, practical work, laboratory work, study tours, discussions, group work etc. The number of practical studies comply with Latvian Cabinet of Ministers' regulations no. 141 "Regulations on the state standard of first-level professional higher education" (<https://likumi.lv/ta/id/6397-noteikumi-par-pirma-limena-profesionalas-augstakas-izglitiba-valsts-standardu>) and is more than 30%, as mentioned in SAR (Annex 28) 36,25% (1160 hours) from studies are carried out practically.

During experts visit and meeting with academic staff, it was found that during the last academic year (2021/2022) several tours to companies in the industry were carried out (Lat Eko Food, Orkla, Food Union, Brewery "Migla"). Students were introduced to technological processes carried out in the company, quality laboratory and work safety requirements.

During the global COVID-19 pandemic remote study process was implemented. In the meeting with staff responsible for the quality assurance system the remote work process was explained. The study courses were reviewed to adapt to the current situation. Theoretical studies were conducted during the winter when the most strict restrictions were adopted by the government. During the spring when restrictions were eased practical and laboratory works were carried out in small groups of students (as per government order). There was no situation when the laboratory works specified in the study course descriptions were not performed. All information about changes in the study process was announced on the Moodle system and all students were informed immediately.

The course descriptions (annex 25) demonstrate a variety of student-centred learning and teaching principles applied, such as lectures, laboratory work, study tours to food production companies, group work etc. However, during meetings with the management, it was stated that the lecturers should have pedagogical training when they are hired and that there is no focus on pedagogical training later on. To achieve a learning environment of high quality, pedagogical discussions and training should be a continuous process as being a teacher require a critically reflective approach to teaching, tutoring, learning and assessment. However, to ensure that all staff members have a pedagogical fundament the expert group suggests RTU OTC developing a mandatory pedagogical basic competence course for new staff members. Furthermore, RTU OTC management should stimulate pedagogical development among staff members by making (1) intensives for pedagogical development and innovative teaching approaches, (2) pedagogical training and attending educational/pedagogical conferences as a part of the staff career development plans and (3) arenas for discussion of innovative teaching and assessment methods. The expert group is happy to see a high engagement among the staff members and very satisfied students.

2.2.4 Study program "Food quality control" foresees 2 internships during the 2 year study period with 16 KP in total (SAR, p.3.2.4.) and complies with Latvian Cabinet of Ministers' regulations no. 141 "Regulations on the state standard of first-level professional higher education" (<https://likumi.lv/ta/id/6397-noteikumi-par-pirma-limena-profesionalas-augstakas-izglitiba-valsts-standardu>)

). The main learning outcome of internships is the practical application of the theoretical knowledge acquired during studies. Tasks are clearly defined and understandable. Internship assessment consists of an internship report 25%, presentation 25%, attendance and feedback from the company 50%. (SAR, Annex 26).

During the meetings with students and graduates, they confirmed that the preparation of the internship report did not cause any problems and in case of any questions it was possible to communicate with the internship supervisor at the company and the college. Students and graduates have completed their internships in the following companies: A/S Putnu Fabrika Ķekava, A/S Rīgas piena kombināts, LPKS LATRAPs, SIA Līcīši. The tasks during the internships were in accordance with the internship description. Some of the students have also continued to work in the company after their internship (during the visit one of the met graduates informed that she is still working in poultry production company "Putnu fabrika Ķekava" after the last year internship). Students and graduates informed that in case finding an internship caused difficulties, then RTU OTC helped to find the most suitable company for the student.

In experts meeting with the academic staff, they informed that during the internship students need to weekly submit a draft for an internship report, so the RTU OTC supervisor was informed about the progress and execution of the tasks.

2.2.5. Not applicable.

2.2.6. During the expert's visit several theses were available. After examining them, the experts concluded that topics for the student's final theses are made according to a common principle - "Quality control of ...(food product or food production process)". Food product or production process is selected depending on the company where the qualification internship is carried out. The study program is "Food quality control" and the profession to be obtained is "Quality specialist" - topics for the final theses are relevant. The thesis consists of a literature review, research part, SWOT analysis, quality management system, work and environmental safety. The necessary study of the processes that the student must invest in the preparation of the final thesis suggests that in this way the student is fully able to understand the application of theoretical knowledge in practice. After preparation of the final thesis corresponding to the description of the qualification work (SAR, Annex 25, study course description no 34), the student's skills and abilities correspond to the characteristics specified in the profession standard (Profession standard "Food quality specialist" PS-193.pdf (visc.gov.lv)).

### **Conclusions on this set of criteria, by specifying strengths and weaknesses**

The study courses implemented in the study program "Food quality control" are mutually complementary and explanatory and ensure the achievement of the goal of the study program. The level of knowledge to be obtained in the study courses is specified in accordance with the profession standard "Food quality specialist" (PS-193.pdf (visc.gov.lv)). RTU OTC study program "Food quality control" prepares professionals and the emphasis is on practical skills rather than scientific activities. There is no evidence that representatives of the industry would also participate in the review of the content of the study program.

The study process consists of acquiring theoretical knowledge in person, independent and practical work in RTU OTC laboratories. Methods like lectures, seminars, practical work, laboratory work, study tours to food production companies, discussions, group work etc. are used during the study process. The study process is compliant with national legislation. During the global COVID-19 pandemic remote study process was implemented, and overall quality of the studies was not

critically affected.

The study program foresees 2 internships during the 2 year study period with 16 credit points in total and complies with national legislation. The main learning outcome of internships is the practical application of the theoretical knowledge acquired during studies. Students and graduates complete their internships in a variety of industry companies, and some of them continue to work in the company after their internship.

Topics for the students' final theses are made according to a common principle, and the thesis is written about the quality control processes in the production of a specific product or product group. Topics available for review are relevant to the study program and place of internship.

Strengths:

1. Study program is based on the national profession standard and is focused on promoting the practical skills of students
2. The RTU OTC actively participates in providing students with internships
3. Well-equipped laboratories for practical training of students

Weaknesses:

1. Insufficient amount of outsourced data for evaluating the content of study programs. Experts believe that a comparison with five other higher education study programs in the food industry in Latvia and internationally is necessary to evaluate the relevance of the study program
2. Insufficient pedagogical training of teachers as well as no intensives or meeting arenas for developing innovative teaching- and assessment methods. Experts suggest that RTU OTC design a mandatory course in basic university pedagogical competence (100-200 hours) for new staff members and introduce regular meeting arenas (minimum of two per semester) where staff members discuss teaching- and assessment practice.

### **Assessment of the requirement [5] (applicable only to master's or doctoral study programmes)**

- 1 R5 - The study programme for obtaining a master's or doctoral degree is based on the achievements and findings of the respective field of science or field of artistic creation.

**Assessment of compliance:** Not relevant

n/a

## **2.3. Resources and Provision of the Study Programme**

### **Analysis**

2.3.1. As this study field has one study program the information analyzed under the study field section paragraphs 1.3.1.-1.3.3. is relevant.

According to SAR p. 27, in the autumn of 2020, 11 new laboratories with suitable equipment were introduced in the main building of the College. 4 of those 11 laboratories are used for the "Food Quality Control" study program. These four laboratories were also shown to the experts during the on-site visit: 1. Inorganic and organic chemistry study laboratory; 2. Analytical chemistry study laboratory; 3. Food technology study laboratory; 4. Microbiology training laboratory. All of these laboratories are equipped with brand new furniture and equipment such as an ultrasound bath for organic and inorganic chemistry, a drying cabin, water treatment equipment, a machine for evaluation of the freezing point of ice, a laminar cabin, ice cream-making machine, vacuum, clippers for sausages, ice generator. Students regularly have lectures in the laboratories where they can freely access everything needed. In case students wish to do research work outside lectures, they

are allowed to do so.

Within the College itself, the library resources and databases accessible are very limited. There is no variety of the resources and the links provided within the SAR p.29 are open access databases with no or very limited practical use such as Thesaurus and Terms. As found out during an onsite visit, it became clear that the students of the College, when in need of more extensive resources such as books or access to specific databases, can register and access the materials through RTU which widens the resource base available for study processes. As stated by students, the registration process is not complicated, and when once registered, the resources are rather easy to be found. As students indicated that it is not a big problem for them to access the resources in other libraries or databases, at this point it is not seen as a big problem. However, it is highly advisable for the College to improve its resource base through the next years as students should not have to drive to another city for example Riga just to pick up a book. It can happen sometimes but not on a regular basis that the library does not have some resources that they need for studies.

2.3.2. Not applicable.

2.3.3. The basis of funding for this study program is the state budget placed in the amount of 20 for the study year of 2022. Based on the study costs in 2022, funding of EUR 99 635 is available in the thematic area "Manufacture and Processing", including EUR 6300 scholarships. As already stated in the analysis of the study field, the College is facing problems in filling the state budget places which has resulted in the decrease of the amount to 20 from 36 in 4 year period. It raises the question of the profitability of the program in the long term. For the study program to be rehabilitated, all of the state budget places need to be filled. The College has to find ways to manage to fill the study places such as promoting the College, ensuring that future students are informed of its existence of it, what makes it special and why to choose this College specifically. With time, it is highly necessary to offer different kinds of study paces as- part-time, remotely possibly with only laboratory works on site, improving English language skills and attracting Erasmus exchange students for various research projects, and establishing a program in English. At this point, the study program is being implemented in the form of full-time studies. The dropout rate also has been increasing, and it is sometimes even impossible to complete groups every study year( SAR p.56.,57). For example, in the study years - 2015/16, 2018/19, 2019/20 there were 0 matriculated students. In the study years - 2017/18, 2020/21 - there were 0 graduates. In the study year of 2019/20 there were 2 graduates, and the numbers are constantly decreasing. This trend has been explained by the College due to high dropout rates because of full-time studies that cannot be combined with work.

### **Conclusions on this set of criteria, by specifying strengths and weaknesses**

The College has highly new and advanced laboratories for students to do practical tasks. Students have limited library resources onsite, but they can easily access the necessary resources through RTU and other databases. The overall number of students is decreasing with every year as well as the funding while the expenses are increasing per student. The College struggles to fill all the state budget places for the study programme which raises a concern. The informative material base is unclear. The College uses various platforms for everyday purposes which is insufficient.

Strengths:

1. See strengths of the section "Resources and Provision of the Study Field."

Weaknesses:

1. Significant decrease of graduates in the recent years, for example, 2018./2019. - 4, 2019./2020. -

- 2 and 2020./2021, - none;
2. Inability to fill all the state budget places;
3. Limited resources of their own in the library. Most of the resources are RTU-provided.

## **Assessment of the requirement [6]**

- 1 R6 - Compliance of the study provision, science provision (if applicable), informative provision (including library), material and technical provision and financial provision with the conditions for the implementation of the study programme and ensuring the achievement of learning outcomes

### **Assessment of compliance: Fully compliant**

Students are provided with limited forms of support needed regarding resources. Students have access to the library of the College, although it has a very limited amount of books in place. Most of the resources that the students use are provided by other libraries and databases by RTU. The College is supportive in finding internships for students and also provides psychological support for students in need. There is a strong resource base regarding technical equipment and technologies that students can practice.

## **2.4. Teaching Staff**

### **Analysis**

2.4.1. The SAR states (p. 66) that 17 teachers are implementing the study program. The composition of the teaching staff is as follows: 3 doctors of sciences and 11 lecturers with master's degrees. There is no information about the rest staff members. The program comprises 34 study subjects, meaning the same teacher delivers several study subjects. It was confirmed during the site visit. SAR also states that most lecturers have significant practical experience in the relevant field of activity (p. 67).

2.4.2. According to SAR (p. 67), there were changes in teachers' composition during the reporting period. SAR states "that these changes have had a positive effect on the quality of studies" (page 67). It provided a possibility to balance the workload and find a suitable lecturer for each study course. Also, new professionals with extensive previous experience have been involved in teaching. The SAR specifies (p. 67) that the main criteria of RTU OTC for teachers' selection are their academic degree, professional experience, and research and communication skills.

2.4.3. Not applicable.

2.4.4. The competence of RTU OTC teachers mainly relies on their professional experience. The involvement of teachers in scientific activities is low: only 4 teaching staff members published publications on food quality issues during the reporting period. The level of these publications is unknown. SAR and the site visits mentioned scientific conferences organized by RTU OTC; however, no detailed information is available on the conference topics, teachers' input and cooperation with other colleges or the industry entities to promote the study field and the program. Experts believe that low English language skills and a significant workload due to the high number of lecturing/class contact hours could be a barrier to fostering scientific publications.

2.4.5. The teaching staff looks engaged and happy with the composition and their role in the study program. The teachers emphasise the practical aspect of the program and see it as an attractive aspect for the students. They're also happy with the decision to reduce the duration of the program



from 2.5 to 2 years. The mechanism of cooperation in implementing the study program is not formalised. During the site visit, the representatives mentioned the talks on the program's content. Some teachers actively use teaching mobility opportunities provided by the ERASMUS+ Program. As for the development aspects, teachers suggest expanding and fostering cooperation with business companies in food quality control.

### **Conclusions on this set of criteria, by indicating strengths and weaknesses**

The program comprises 34 study subjects, and 17 teachers are implementing the study program. Most lecturers have significant practical experience in the relevant field of activity. There were changes in teachers' composition during the reporting period, and new professionals with extensive previous experience were involved in teaching. The competence of RTU OTC teachers relies on their professional experience. However, only 4 teaching staff members published publications on food quality issues during the reporting period, which is considered low scientific activity.

On the other hand, the teaching staff is engaged and happy with the composition and their role in the study programme. The teachers emphasise the practical aspect of the program and see it as an attractive aspect for the students. Teachers suggest expanding and fostering cooperation with business companies in food quality control.

Although the information in the SAR about teaching staff lacks the data after the on-site visit, experts believe that the qualification of the teaching staff involved in the implementation of the study programme complies with the requirements for the performance of the study programme. The RTU OTC purposefully takes measures to renew the composition of the teaching staff. But a mechanism for the cooperation of the teaching staff in implementing the study programme remains unknown.

Less than half of academic staff members in the last six years have published in peer-reviewed editions, including international editions.

#### **Strengths:**

1. The teaching staff is very engaged and supportive

#### **Weaknesses:**

1. Insufficient efforts in scientific activities. Only 4 out of 17 teachers have published scientific papers during the reporting period

### **Assessment of the requirement [7]**

- 1 R7 - Compliance of the qualification of the academic staff and visiting professors, visiting associate professors, visiting docents, visiting lecturers and visiting assistants with the conditions for the implementation of the study programme and the requirements set out in the respective regulatory enactments.

#### **Assessment of compliance:** Fully compliant

The teachers are very engaged and supportive of RTU OTC. The large workloads due to the number of contact hours, insufficient foreign language skills and research activities are seen as points to be considered in the future in order to contribute to and develop the study programme as well as the study field.

## **2.5. Assessment of the Compliance**

## Requirements

- 1 1 - The study programme complies with the State Academic Education Standard or the Professional Higher Education Standard

### **Assessment of compliance:** Fully compliant

The volume and duration of the study program comply with national regulations for first-level professional higher education

(<https://likumi.lv/ta/id/6397-noteikumi-par-valsts-pirma-limena-profesionalas-augstakas-izglitiba-standartu>). Volume of study program is 80 KP and duration is 4 semesters of full time on-site studies which is the minimum specified by standard. The study program "Food quality control" contains all the basic parts needed in the necessary volume which includes 20 KP of general education courses, 36 KP of mandatory study courses of the industry, 16 KP of internships and 8 KP of qualification work. Volume of contact hours is 6,25% higher than set in the standard. Study program also includes courses that provides students with knowledge about entrepreneurship and management, environment and work safety (SAR, Annex 24). According to study plan shown in SAR Annex 24 study courses are distributed evenly and logically throughout 4 semesters. 1st semester is more focused on general education study courses (foreign language, mathematics, physics, civil protection and work safety), 2nd and 3rd semester is focused on study courses relevant to industry (chemistry, analytical methods, quality, legislation etc.), 4th semester is devoted to qualification internship and development of the qualification work.

- 2 2 - The study programme complies with a valid professional standard or the requirements for the professional qualification (if there is no professional standard required for the relevant occupation) provided if the completion of the study programme leads to a professional qualification (if applicable)

### **Assessment of compliance:** Fully compliant

The study program includes all necessary study courses necessary to achieve the appropriate level of knowledge in accordance with the profession standard "Food quality specialist" which was approved on 15th of December 2021 (PS-193.pdf (visc.gov.lv))

- 3 3 - The descriptions of the study courses and the study materials have been prepared in all languages in which the study programme is implemented, and they comply with the requirements set forth in Section 561 , Paragraph two and Section 562 , Paragraph two of the Law on Higher Education Institutions.

### **Assessment of compliance:** Partially compliant

All study materials are available in Latvian - the study program is implemented only in Latvian. Course description contains all points defined in fourth Section 561, Paragraph of the Law on Higher Education Institutions.

No written procedures for the development of study programs are available

- 4 4 - The sample of the diploma to be issued for the acquisition of the study programme complies with the procedure according to which state recognised documents of higher education are issued.

### **Assessment of compliance:** Fully compliant

The provided sample of the diploma (Annex 22) complies with the procedure according to which state recognised documents of higher education are issued.

- 5 5 - The academic staff of the academic study programme complies with the requirements set forth in Section 55, Paragraph one, Clause 3 of the Law on Higher Education Institutions.

**Assessment of compliance:** Not relevant

n/a

- 6 6 - Academic study programmes provided for less than 250 full-time students may be implemented and less than five professors and associated professors of the higher education institution may be involved in the implementation of the mandatory and limited elective part of these study programmes provided that the relevant opinion of the Council for Higher Education has been received in accordance with Section 55, Paragraph two of the Law on Higher Education Institutions.

**Assessment of compliance:** Not relevant

n/a

- 7 7 - At least five teaching staff members with a doctoral degree are among the academic staff of an academic doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field of science. At least five teaching staff members with a doctoral degree are among the academic staff of a professional doctoral study programme in arts (if applicable).

**Assessment of compliance:** Not relevant

n/a

- 8 8 - The teaching staff members involved in the implementation of the study programme are proficient in the official language in accordance with the regulations on the level of the official language knowledge and the procedures for testing official language proficiency for performing professional duties and office duties.

**Assessment of compliance:** Fully compliant

The Annex 11 verifies that the state language proficiency complies with the rules of Cabinet of Ministers No. 733. (Regulations Regarding the Extent of the Knowledge of the Official Language, the Procedures for Examining the Proficiency in the Official Language and the State Fee for Examining the Proficiency in the Official Language).

- 9 9 - The teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language, if the study programme or any part thereof is to be implemented in a foreign language (if applicable).

**Assessment of compliance:** Not relevant

n/a

- 10 10 - The sample of the study agreement complies with the mandatory provisions to be included in the study agreement.

**Assessment of compliance:** Fully compliant

The attached sample of study agreement (Annex 7) complies with rules of the Cabinet of Ministers. Nr. 70. (Mandatory provisions to be included in the study agreement).

- 11 11 - The higher education institution / college has provided confirmation that students will be provided with opportunities to continue their education in another study programme or another higher education institution or college (agreement with another accredited higher education institution or college) if the implementation of the study programme is terminated.

**Assessment of compliance:** Non-compliant

According to Appendix No.5 RTU OTC has not concluded an agreement with another higher

education institution regarding the possibility of continuing studies if the study program is not accredited. Considering that such a agreement is not attached, the right of students to obtain a state-recognized diploma is jeopardized in the situation if the study programme is closed. In order to ensure a student-centered approach, the college must provide an agreement on the opportunities for students to continue their studies in equivalent study programme, in case this study programme is closed.

- 12 12 - The higher education institution / college has provided confirmation that students are guaranteed compensation for losses if the study programme is not accredited or the study programme's license is revoked due to the actions (actions or omissions) of the higher education institution or college and the student does not wish to continue studies in another study programme.

**Assessment of compliance:** Non-compliant

According to Appendix No.6, RTU OTC does not guarantee the coverage of losses for students, as the studies are offered only at the expense of the state budget. The existence of a certificate of covering losses would be important for students, as it would be like a guarantee of RTU OTC and the risk of non-accreditation of the study program in case of certain actions or inaction would be reduced.

Experts draw attention to the fact that the external regulatory framework does not specify exceptional cases in which such approval does not have to be provided. In addition, approval of compensation for losses should also be provided in specially, in the case if students who pay their own tuition fees could be enrolled in the study programme, such students must have a guarantee of compensation for losses.

- 13 13 - The joint study programmes comply with the requirements prescribed in Section 55.(1), Paragraphs one, two, and seven of the Law on Higher Education Institutions (if applicable)

**Assessment of compliance:** Not relevant

n/a

- 14 14 - Compliance with the requirements specified in other regulatory enactments that apply to the study programme being assessed (if applicable)

**Assessment of compliance:** Not relevant

n/a

**Assessment of the requirement [8]**

- 1 R8 - Compliance of the study programme with the requirements set forth in the Law on Higher Education Institutions and other regulatory enactments.

**Assessment of compliance:** Partially compliant

The study program partially complies with the requirements set in national regulatory enactments, because the study materials comply with the Law of Higher education institutions, but the materials need to be updated. It is necessary to provide confirmations about the compensation of losses and the possibilities of students to continue their studies in case the study program is closed.

**General conclusions about the study programme, indicating the most important strengths and weaknesses of the study programme**

The goals and results of the study program are clearly defined in the provided documentation, as

well as the results of each individual study course. The professional qualification meets the standard of the profession, at the same time, the content of the study program has not been evaluated together with representatives of the food industry, which does not allow to claim that the content of the program fully meets the labour market requirements for students of the specific speciality. The study program is implemented only in Latvian. There is a good material and technical base to implement a quality study process. However, the study program has significant shortcomings. The main one of them is the small number of students and graduates, which does not create confidence that the implementation of the program is economically justified.

### **Evaluation of the study programme "Food Quality Control"**

Evaluation of the study programme:

Average

### **2.6. Recommendations for the Study Programme "Food Quality Control"**

#### **Short-term recommendations**

1. Until the 2023/2024 academic year, review and improve the content of the study program together with industry representatives.
2. Develop a plan for attracting students by the 2023/2024 academic year.
3. Research at least 5 other higher education study programs in the food industry in Latvia and internationally. In the next review of the study program, carry out an analysis of the RTU OTC study program "Food quality control" against equivalent higher education study programs.
4. Develop a systematic plan for high-quality teaching, including (1) continuous pedagogical training and competence development among staff members, and (2) establishment of arenas for discussion of innovative teaching and assessment methods.
5. Until the next study year, introduce a certificate of covering losses for students if the study program is not accredited in case of certain actions or inaction.
6. Until the decision on the accreditation of the study field is made, submit approval about the compensation of losses and the possibilities of continuing the studies (possible contract with another educational institution) in case the study programme is closed.

#### **Long-term recommendations**

1. Until the next accreditation, implement the strategy of attracting students and evaluate the introduced changes, to increase the number of graduates by at least 20%.
2. Implement the systematic plan for high-quality teaching and develop intensives for development projects in education.

## **III - Assessment of the Requirements for the Study Field and the Relevant Study Programmes**

### **III - Assessment of the Requirements for the Study Field and the Relevant Study Programmes**

#### **Assessment of the Requirements for the Study Field**

Requirements	Requirement Evaluation	Comment
R1 - Pursuant to Section 5, Paragraph 2.1 of the Law on Higher Education Institutions, the higher education institution/ college shall ensure continuous improvement, development, and efficient performance of the study field whilst implementing its internal quality assurance system:	Partially compliant	The basis of the quality system has been developed. The lack of data and their analysis does not guide systems development in the direction of achieving the set strategic goals.
R2 - Compliance of scientific research and artistic creation with the level of development of scientific research and artistic creation (if applicable)	Partially compliant	RTU OTC has a goal of improving research activity, and five staff members are stated to actively contribute to research. However, international research collaboration as well as applied research involving the food industry and students are limited.
R3 - The cooperation implemented within the study field with various Latvian and foreign organizations ensures the achievement of the aims of the study field.	Partially compliant	RTU OTC cooperates with Latvian associations and business companies acting in the food production sector. Business companies offer places for an internship for RTU OTC students, which works as an instrument to attract new employees. The cooperation with the business partners mainly relies on personal contacts, but no structure was identified on how the partners are selected. The RTU OTC cooperation with the Latvian University of Life Sciences and Technologies is based on those college students able to use the collections of the university's library resources and subscribed databases for their studies. International cooperation is very limited.

Requirements	Requirement Evaluation		Comment
R4 - Elimination of deficiencies and shortcomings identified in the previous assessment of the study field, if any, or implementation of the recommendations provided.		Partially compliant	Two out of eight recommendations have been partially implemented. However, the partially compliant rating is affected by only one of the recommendations, which is partially fulfilled, that is, cooperation with the industry. Professional education is implemented in the studied field, which determines that cooperation with the industry is essential. in this case the evaluation is affected

### Assessment of the Requirements for the Relevant Study Programmes of the Study Field

No.	Study programme	R5	R6	R7	R8	Evaluation of the study programme (excellent, good, average, poor)
1	Food Quality Control (41541)	Not relevant	Fully compliant	Fully compliant	Partially compliant	Average

### The Dissenting Opinions of the Experts

No